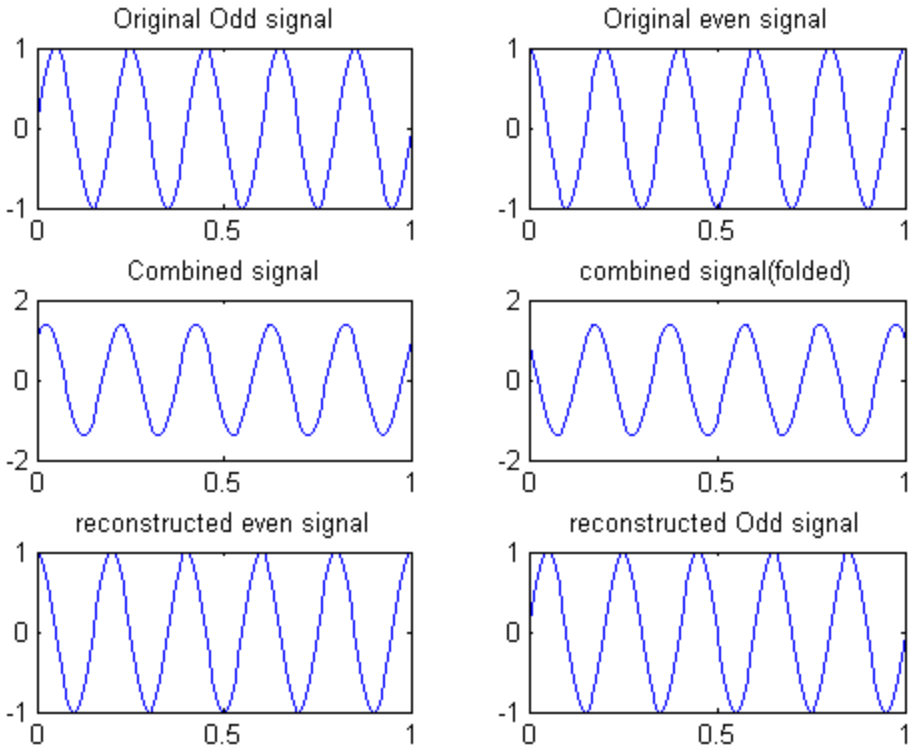
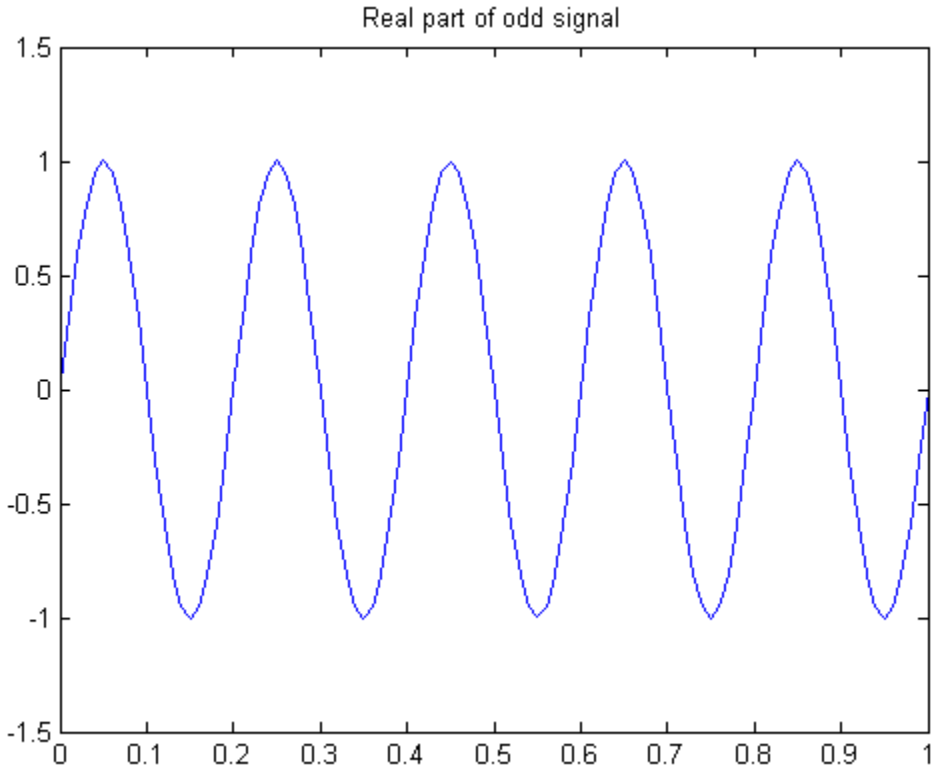
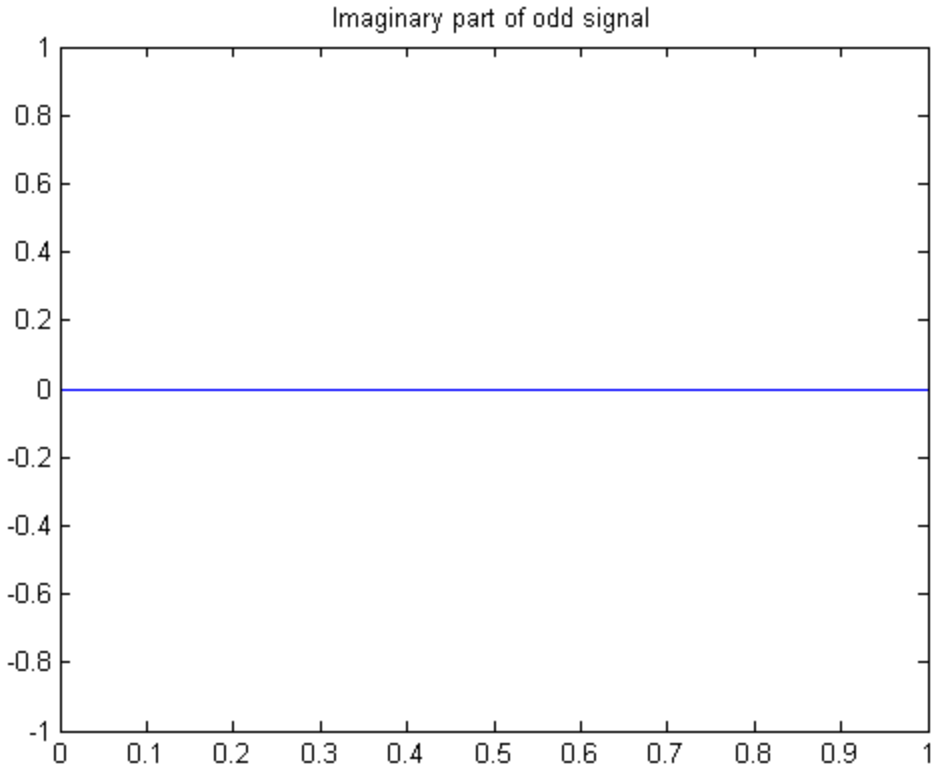
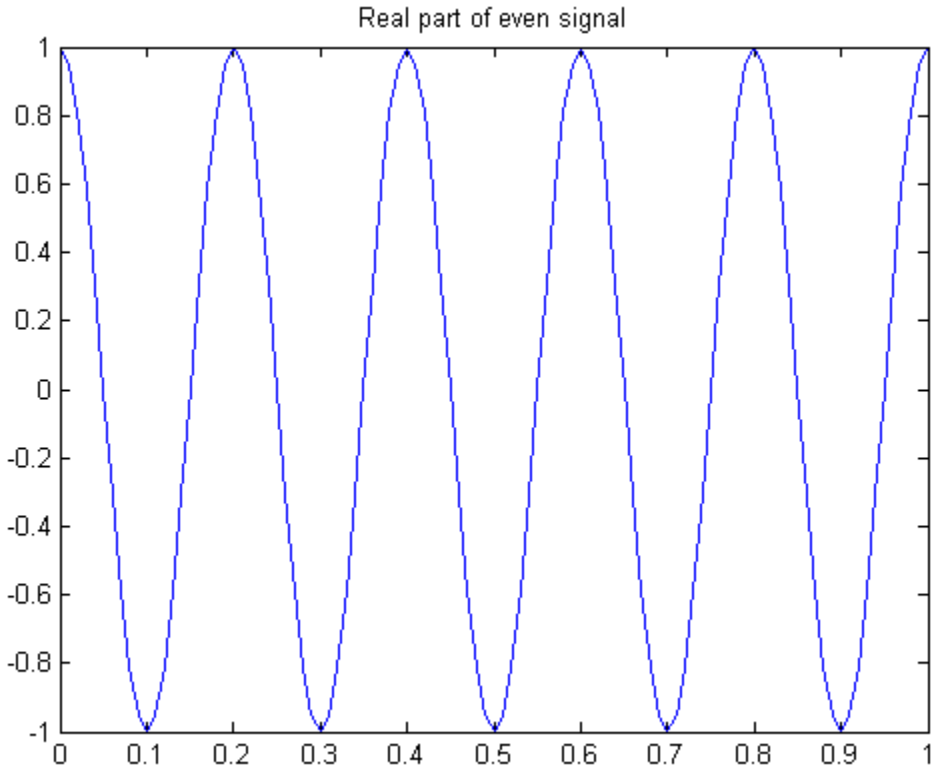
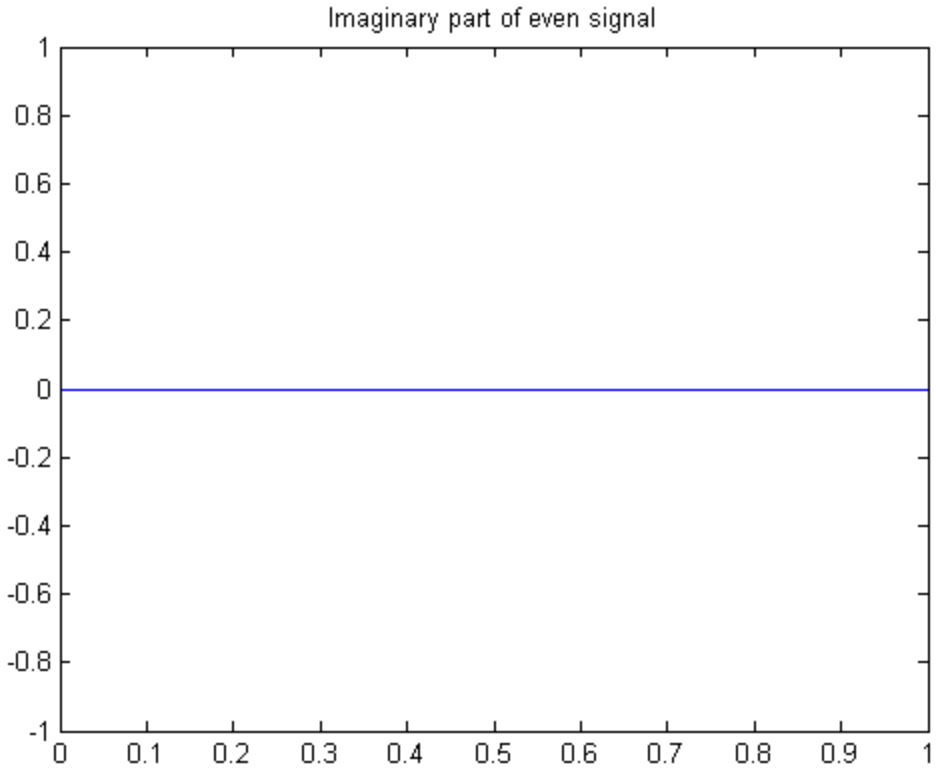
```
clc;
clear all;
close all;
t = 0:0.01:1;
f =5; %Operating frequency
p=sin (2*pi*f*t); %Odd signal
q=cos(2*pi*f*t); %Even signal
r=p+q; % Combined signal
r_fold=fliplr(r); % Folded signal
even_sig=0.5*(r+r_fold); % Reconstructed even signal
odd_sig=0.5*(r-r_fold); % Reconstructed odd signal
subplot(3,2,1);
plot(t,p);
title('Original Odd signal');
subplot(3,2,2);
plot(t,q);
title('Original even signal');
subplot(3,2,3);
plot(t,r);
title('Combined signal');
subplot(3,2,4);
plot(t,r_fold);
title('combined signal(folded)');
subplot(3,2,5);
plot(t,even_sig);
title('reconstructed even signal');
subplot(3,2,6);
plot(t,odd_sig);
axis([0 1 -1 1]);
title('reconstructed Odd signal');
figure(2);
plot(t,real(odd_sig));
title('Real part of odd signal');
figure(3);
plot(t,imag(odd_sig));
title('Imaginary part of odd signal');
figure(4);
plot(t,real(even_sig));
title('Real part of even signal');
figure(5);
plot(t,imag(even_sig));
title('Imaginary part of even signal');
%NAME :-  VIVEK VARDHAN
%ROLL NUMBER :- 20A91A04C2
```


Original Odd signal
Original even signal
Combined signal
combined signal(folded)
reconstructed even signal
reconstructed Odd signal


Real part of odd signal


Imaginary part of odd signal
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1


Real part of even signal
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1



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